

**Notice of Allowability**

Application No.

09/614,592

Examiner

Chieh M. Fan

Applicant(s)

SATO, TOSHIFUMI

Art Unit

2638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 9/12/05.
2. ☒ The allowed claim(s) is/are 1-13 and 15-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance                        |
|   | 9. <input type="checkbox"/> Other _____  |

## DETAILED ACTION

### *Examiner's Amendment*

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Paul J. Wilson on 9/27/2005.

The application has been amended as follows:

In the claims:

Claim 11 has been replaced by the following:

11. A path search circuit in a CDMA cellular system, comprising:
  - an antenna having a plurality of elements;
  - a plurality of radio receivers for frequency-converting radio frequency signals received respectively by the elements of the antenna into respective baseband signals;
  - a plurality of A/D converters for converting the respective baseband signals into digital data;
  - a plurality of correlation processors for calculating cross correlations between the digital data converted from the baseband signals and a signal known at a reception side, and outputting respective correlation signals;
  - a weighted-mean-value processor for weighting and adding the correlation signals output from said correlation processors based on indicated weighting

coefficients, and averaging the weighted and added correlation signals for a predetermined number of times, ~~wherein said weighting controller comprises means for generating combinations of weighting coefficients for establishing an antenna directivity in a plurality of directions in which a party to communicate with is possibly present, when a communication session starts, and reducing the number of combinations to be generated during the communication session so as to be smaller than the number of combinations to be generated when the communication session starts;~~

a correlation peak detector for detecting at least one peak from the weighted, added and averaged correlation signals output as delay profiles from said weighted-mean-value processor, and outputting a reception level and reception timing corresponding to the detected peak as a reception level and reception timing of a reception path; and

~~when the communication session starts, a weighting controller for controlling said weighting coefficients to determine a directivity of said antenna and generating a plurality of weighting coefficients to establish a plurality of general antenna directivities for dividing a sector where a mobile terminal with which to communicate is present, wherein said weighting controller comprises means for generating combinations of weighting coefficients for establishing an antenna directivity in a plurality of directions in which a party to communicate with is possibly present, when a communication session starts, and reducing the number of combinations to be generated during the communication session so as to be smaller than the number of combinations to be generated when the communication session starts.~~

End of examiner's amendment


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (571) 272-

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3042. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM,  
Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Chieh M Fan  
Primary Examiner  
Art Unit 2638

cmf  
September 28, 2005